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Mineral Industry Surveys

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MANUFACTURED ABRASIVES IN THE FIRST QUARTER 2000

The U.S. Geological Survey (USGS) collects quarterly data on manufactured abrasives through its survey of producers. Manufactured abrasives included in this report are fused aluminum oxide, silicon carbide, and metallic abrasives. Where indicated, U.S. and Canadian data are combined to protect proprietary information. Except where noted, the quantities cited in this report are in metric units.

Fused Aluminum Oxide

During the first quarter, fused aluminum oxide was produced by three companies with one plant operating in the United States and three plants operating in Canada. Although the USGS collects production data from these firms, publication of the data has been discontinued to protect company proprietary interests.

According to the Bureau of the Census, 2000 U.S. imports of crude fused aluminum oxide through February were 16,900 metric tons valued at $5.5 million, or an average of $328 per ton. About 58% of the imports came from China and 42% from Canada. Imports of crude fused aluminum oxide from China have been rising, but some of the imports may not be abrasive-quality material.

U.S. imports of refined and ground fused aluminum oxide in the first two months of 2000 reached 16,900 tons valued at $9.8 million, or an average of $578 per ton. The top five sources of the refined and ground imports were Canada (46%), China (26%), Germany (9%), Austria (8%), and Brazil (5%). Low-cost imports of fused aluminum oxide grain from China also have increased in recent years. The imports, however, reportedly include refractory grade material as well as abrasive grain.

U.S. exports of fused aluminum oxide through February 2000 were 1,480 tons. The exports were valued at $2.5 million, or $1,680 per ton. Mexico received 38% of the exports that were shipped; Canada received 25% and Netherlands received 21%.

The Department of Defense stores fused aluminum oxide in the National Defense Stockpile (NDS). All of the NDS aluminum oxide, however, has been authorized by law for disposal. During the first quarter of 2000, the Department of Defense sold 16,200 tons of crude fused aluminum oxide valued at $2.1 million, and 1,070 tons of fused aluminum oxide abrasive grain valued at $365,000 were also sold. At the end of the quarter, 74,200 tons of crude fused aluminum oxide and 17,800 tons of fused aluminum oxide abrasive grain remained in the NDS. If the current disposal rate and NDS sales schedules are continued, all of the stockpiled fused aluminum oxide will be sold by 2003.

Silicon Carbide

Abrasive-grade silicon carbide is produced by one company in the United States and by one company in Canada. Although the USGS collects production data from both firms, publication of the data has been discontinued to protect company proprietary interests.

Total 2000 U.S. imports of crude silicon carbide through February were 22,600 tons valued at $9.1 million; imports from China alone were 17,900 tons valued at $6.3 million. The average price of imported crude silicon carbide, excluding Chinese crude, was $599 per ton; the average price of Chinese crude was $353 per ton. U.S. imports of refined and ground silicon carbide for the same period were 2,520 tons valued at $4.9 million, or an average of $1,930 per ton. During the period, China accounted for 79% of the crude material and 26% of the refined and ground material. A large part of the Chinese imports, however, reportedly are only metallurgical grade quality.

U.S. exports of crude silicon carbide through February 2000 were reported to be 275 tons with a value of $374,000. Exports of refined and ground silicon carbide were 1,520 tons valued at $1.4 million. Almost all of the crude material was shipped to Mexico, Japan, and Sweden and most of the refined material went to Canada, Mexico, and Japan.

In the first quarter of 1999, the NDS sold all of the silicon carbide in the stockpile. No further stockpiling of silicon carbide by the Department of Defense is anticipated.

Metallic Abrasives

Metallic abrasives information was collected from 12 companies operating 14 U.S. plants. During the first quarter of 2000, six companies produced 72,400 tons of steel shot and grit, virtually unchanged relative to the same period in 1999. At least one of the companies produced shot and grit from reclaimed material. Total first quarter production was valued at $32.4 million, or an average of $447 per ton. Total annual output in 2000 is expected to be 290,000 tons valued at $130 million; 1999 output was 278,000 tons valued at $122 million.

Shipments of steel shot and grit in the first quarter were 72,300 tons valued at $32.8 million, or an average of $454 per ton. Shipments during the first quarter of 1999 were 72,200 tons valued at $31.9 million for an average of $442 per ton.

Estimated first quarter production of other types of metallic shot and grit (primarily cut wire shot) was 576 tons valued at $1.9 million. Six companies produced shot.

Imports of all types of metallic shot and grit through February 2000 were 5,620 tons valued at $2.8 million for an average of $496 per ton. Canada was the largest supplier, accounting for 78% of the tonnage imported.

Exports of all types of metallic abrasives through February 2000 were 4,170 tons valued at $2.9 million, or an average of $700 per ton. Shipments to Canada accounted for 53% of the exports; an additional 37% was shipped to Mexico.

TABLE 1
MANUFACTURED ABRASIVES 1/

(Metric tons, unless otherwise specified)

Source and product	1999 First quarter Quantity	1999 First quarter Value (thousands)	1999 Second quarter Quantity	1999 Second quarter Value (thousands)	1999 Third quarter Quantity	1999 Third quarter Value (thousands)	1999 Fourth quarter Quantity	1999 Fourth quarter Value (thousands)	2000 First quarter Quantity	2000 First quarter Value (thousands)
United States and Canada: Production										
Silicon carbide 2/	17,500	$10,500 e/	W	W	W	W	W	W	W	W
Crude aluminum oxide: Regular-grade e/ 3/	26,800	9,520	22,000	$7,650	W	W	W	W	W	W
United States: Production										
Steel shot and grit	72,200	31,800	73,900	32,000	66,700	$29,800	65,600	$28,400	72,400	$32,400
Other shot and grit e/ 4/	516	1,910	503	1,760	495	1,730	492	1,750	576	1,910
Total	72,700	33,700	74,400	33,700	67,200	31,500	66,100	30,100	73,000	34,300
United States: Shipments										
Steel shot and grit	72,200	31,900	72,300	31,900	69,800	30,700	67,300	27,800	72,300	32,800
Other shot and grit e/ 4/	523	1,950	504	1,760	494	1,730	490	1,740	576	1,910
Total	72,700	33,900	72,800	33,700	70,300	32,400	67,800	29,500	72,900	34,700

e/ Estimated. W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes materials for metallurgical uses and other applications.

3/ Regular-grade normally accounts for 85% of total output, and high-purity material accounts for the remainder.

4/ Includes cut wire shot and reclaimed shot and grit from primary producers.